

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): An information processing system comprising:
an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage; and
a management host which manages said storage,
wherein said storage comprises at least one port and at least one array group including a plurality of disk units;
wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group;
wherein said storage and said information processing apparatus constitute an access process section for processing an access request from an application;
wherein said access process section includes said at least one port and said at least one array group;
wherein said information processing apparatus comprises an access monitoring section which monitors an access request from said application and obtains information about said access request for each of said applications; and
wherein said management host comprises:
an acceptance section which accepts specification of a new application;
a current load calculation section which calculates current amount of data accessed from said application to said storage for each of said applications based on information obtained by said access monitoring section;
an estimated load calculation section which calculates each of an estimated

amount of data accessed from said application to said storage in said port and an estimated amount of data in said array group, in case of addition of said new application based on current amount of data calculated by said current load calculation section and based on information obtained by said access monitoring section,

wherein in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated, said estimated load calculation section calculates the estimated amount of data by using a current amount of data of said application having an approximate current amount of data; and

a load data output section which outputs each of the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports and array groups.

2-3. (canceled).

4. (previously presented): The information processing system according to claim1,

wherein each of said port and said array group includes a plurality of configurations having similar functions;

wherein said configurations for said at least one port and said at least one

array group comprise a configuration information storage section which stores information about available combinations capable of processing said access request; and

wherein said estimated load calculation section calculates estimated amount of data with respect to said available combinations of said configurations for said at least one port and said at least one array group.

5. (currently amended): An information processing system comprising:
a storage which stores a database and comprises at least one port and at least one array group including a plurality of disk units;

a plurality of information processing apparatuses which are used to operate an application requesting data input/output to/from said storage and access, via said at least one port, a virtual area provided by said at least one array group; and
a management host which manages said storage,

wherein each of said information processing apparatuses comprises:
a database management system which processes an access request from said application to said database and includes said at least one port and said at least one array group;

an access monitoring section which monitors an access request sent from said application to said database management system and obtains information about said access request; and

an access information output section which collects information about said access request and adds up said information correspondingly to said application, and

wherein said management host comprises:

an acceptance section which accepts specification of a new application;

a current load calculation section which calculates current amount of data accessed from said application to said storage for each of said applications based on information obtained by said access monitoring section;

an estimated load calculation section which calculates each of an estimated amount of data accessed from said application to said storage in said port and an estimated amount of data in said array group, calculated by said current load calculation section and based on information obtained by said access monitoring section,

wherein in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated, said estimated load calculation section calculates the estimated amount of data by using current amount of data of said application having an approximate current amount of data;

a load data output section which outputs each of the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports and array groups; and

a configuration setup section which sets up a change in configuration of said storage based on the estimated amount of data calculated by said estimated load calculation section.

6. (currently amended): An information processing system comprising:

- a storage which stores a file and comprises at least one port and at least one array group including a plurality of disk units;
- a plurality of information processing apparatuses which are used to operate an application requesting input/output of data stored in a file to/from said storage and access, via said at least one port, a virtual area provided by said at least one array group; and
 - a management host which manages said storage,
 - wherein each of said information processing apparatuses comprises:
 - a file system which processes an access request from said application to said file and includes said at least one port and said at least one array group;
 - an access monitoring section which monitors an access request sent from said file system to said storage and obtains information about said access request; and
 - an access information output section which collects information about said access request and adds up said information correspondingly to said application,
 - wherein said management host comprises:
 - an acceptance section which accepts specification of a new application;
 - a current load calculation section which calculates current amount of data for each of said applications based on information obtained by said access monitoring section;
 - an estimated load calculation section which calculates each of an estimated amount of data accessed from said application to said storage in said port and an estimated amount of data in said array group, in case of addition of said new application based on current amount of data calculated by said current load

calculation section and based on information obtained by said access monitoring section,

wherein in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated, said estimated load calculation section calculates the estimated amount of data by using a current amount of data of said application having an approximate current amount of data;

a load data output section which outputs the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports and array groups; and

a configuration setup section which sets up a change in configuration of said storage based on estimated amount of data calculated by said estimated load calculation section.

7. (currently amended): A control method of an information processing system, the system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage and a management host which manages said storage,

wherein said storage comprises at least one port and at least one array group including a plurality of disk units,

wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group,

said method comprising the steps of:

monitoring an access request from each of said applications;

obtaining information about said access request for each of said applications;

calculating current amount of data accessed from each of said applications to said storage for each of said applications, in case of addition of said new application based on information about said obtained access request;

accepting specification of a new application;

calculating estimated amount of data accessed from each of said applications to said storage for each said applications, in case of addition of said new application based on information about said obtained access request;

calculating the estimated amount of data by using a current amount of data of said application having an approximate current amount of data, in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated;

calculating each of an estimated amount of data in said port and an estimated amount of data in said array group in case of addition of said new application based on said calculated current data and information about said obtained access request; and

outputting said calculated each of the estimated amount of data in said port and the estimated amount of data in array group; and

outputting a combination of available ports and array groups, in case said information processing apparatus accesses, via a specific port, said virtual area

provided by an array group corresponding to said specific port.

8. (previously presented): The control method according to claim 7, wherein said estimated amount of data is calculated in case of addition of a new application for each of said at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group.

9. (currently amended): A machine readable medium tangibly embodying at least one sequence of instruction program for calculating load data in an information processing system, the system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage and a management host which manages said storage,

wherein said storage comprises at least one port and at least one array group including a plurality of disk units,

wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group, and

~~wherein said program is tangibly embodied on a machine-readable storage device, wherein the sequence of instruction, when executed, causes the management host to program comprising:~~

~~means for monitoring monitor~~ an access request from said application and obtaining information about said access request for each of said applications;

~~means for calculating calculate~~ current amount of data accessed from said application to said storage for each of said applications based on information about

said obtained access request;

~~means for accepting~~ accept specification of a new application;

~~means for calculating~~ calculate an estimated amount of data accessed from said application to said storage for each of said applications, in case of addition of said new application based on information about said obtained access request;

calculate the estimated amount of data by using a current amount of data of said application having an approximate current amount of data, in case there is no current amount of data available to said application whose estimated amount of data needs to be calculated;

~~means for calculating~~ calculate each of an estimated amount of data in said port and an estimated amount of data in said array group in case of addition of said new application based on said calculated current amount of data and information about said obtained access request; and

~~means for outputting~~ output said calculated estimated amount of data in said port and said estimated amount of data in said array group; and

output a combination of available ports and array groups, in case said information processing apparatus accesses, via a specific port, said virtual area provided by an array group corresponding to said specific port.

10. (currently amended): The machine readable medium program according to claim 9,

wherein in said sequence of instruction that causes the management host to ~~means for calculating~~ calculate the estimated amount of data, said sequence of instruction further cause the management host to calculate calculates the estimated amount of data in case of addition of a new application for each of said

at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group.